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Flexible progression provides for a maximum flexibility in the way students progress through the school program. The first type of flexible progression, within the elementary and high school structure, was used in the Pittsburgh school system. Six seventh-grade students who excelled in the use of the English language were permitted to take the ninth-grade course at the nearby high school. These six students received an A in the ninth-grade course.

The second type of flexible progression, from high school to college, consists of three kinds. The first was early admission to college whereby selected students skipped their senior year of high school to enter college as freshmen. The students were enthusiastic at the opportunity to take course work that was more challenging and to be in classes with a more academic atmosphere. Not only was their scholastic performance excellent but they were very successful in adjusting to the nonacademic side of college life. The second kind was part-time college study, whereby the high school student attended college each day for one class. Again the response, enthusiasm, and success of the participating students showed this program to be worthwhile. The third kind, the Advanced Placement Program, allowed students to have advanced placement in college and credit for college courses.

The last type of flexible progression, that within higher education, consists of two kinds. The first offered flexibility within the undergraduate liberal arts program. Students were encouraged to move into many fields of study within the liberal arts program. The second offered flexibility between liberal and professional or graduate programs. Students could move between liberal and professional education.

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Meeting the needs of the able student through provisions for flexible progression

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A report of the Regional Commission on Educational Coordination and the Coordinated Education Center

C. M. Lindvall with the collaboration of J. Steele Gow, Jr., and Francis J. Rifugiato

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MEETING THE NEEDS OF THE ABLE STUDENT

THROUGH PROVISIONS FOR FLEXIBLE PROGRESSION

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Francis J. Rifugiato

A Report of the

Regional Commission on Educational Coordination

and the

Coordinated Education Center

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FOREWORD

Since it was established in July of 1958 the Regional Commission on Educational Coordination has concerned itself with a variety of programs for improving coordination and articulation among the various levels in our educational structure. In its work it has attempted to serve as a stimulus for careful deliberation and subsequent action on certain important problems. Among the first innovations investigated by the Commission and actually tried out in the institutions associated with it in the Coordinated Education Center was a general plan for permitting the able student to move from one institutional level to the next whenever he seems prepared to do so, a plan for "flexible progression." Although many of the elements of this plan are familiar to most educators and have been tried out in many of the nation's schools, it is felt that the operation as carried out by the Center is unique in several aspects and particularly in its comprehensiveness in involving all school levels from the elementary to the graduate school.

Educators should find that this report, prepared by the staff of the Center, contains many suggestions that merit careful consideration by those who are truly concerned with "meeting the needs of the able student."

A.C. Van Dusen, Chairman
Regional Commission on
Educational Coordination

The Regional Commission on Educational Coordination

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PREFACE

Recent years have seen the development of an increasing number of proposals for the improvement of education in this country. Many of these have been excellent and have been put into practice in a large number of schools and classrooms. Others have been of little value. One rather general shortcoming of this many-pronged attack on the problems of education has been the lack of an organized pattern into which the many diverse developments can be fitted and the lack of attention to the matter of coordinating programs at the various levels of our educational structure. It was because of a concern for the lack of attention to this latter type of coordination and a realization that an attack on the total problem of education must give attention to the total pattern of the educational system of our country, that in 1958 a group of educators in the Upper Ohio Valley Region, upon the invitation of Chancellor E. H. Litchfield of the University of Pittsburgh, formed The Regional Commission on Educational Coordination.[1]

The Commission is made up of 14 members representative of many types and levels of education. The aim in constituting the group was to include persons who could represent the points of view and the interests of as great a variety of educational institutions as possible so that when suggestions for improvement were studied and discussed the interests of all types of units could be represented. As a result its membership includes representatives of public and private schools, specialists in elementary and secondary education, city and county superintendents, college professors, college presidents, and university administrators.

The broad task to which the Commission first addressed itself was that of the improvement of the total educational program of the student with college potential and particularly with the problem of providing for greater articulation between elementary and secondary school, between secondary school and college, and between college and professional schools. In choosing to concern itself with the program for the college-able student the Commission was not saying that this was more important than the program for the much larger number of students who are not going to college. It was merely faced with the need of starting with some one group and felt that, since a prime concern was educational coordination, this latter problem would be faced more fully in work with the program for students who were going through all levels of the educational structure.

[1]The Commission was originally known as the Regional Commission on Interrelationships of Secondary Schools, Colleges and Professional Schools.

The Commission sees its basic function to be that of a deliberative body meeting at periodic intervals to discuss certain topics within its general area of interest and, if possible, to arrive at certain conclusions and recommendations. The Commission also serves as a planning group for the undertaking of further attacks on the problems with which it is concerned.

At the very start of their work, the members of the group were cognizant of the fact that any plans or programs developed would have to be justified in terms of their contribution to the basic purposes that must be served by the educational programs of today and of the future. To provide this direction the Commission, working through its staff director Dr. J. Steele Gow, Jr., arranged for a series of meetings of community and educational leaders to discuss the needs of the educated citizen and to delineate the goals to be achieved through the various educational disciplines and at various school levels. This work was divided into two aspects. The first was the work of five symposiums that met to consider the general needs that should be fulfilled by today's educational system.[2] This project is described as follows:

> More than four score business executives, labor leaders, government officials, attorneys, doctors, scientists, engineers, artists and other professional, civic and cultural leaders have taken part in the Symposiums. The participants were carefully chosen, through extensive consultations, to represent the most experienced and respected judgment of the community. They met, each for a full day, in five groups concerned respectively with Social Relations, Economic Affairs, Science and Technology, Health, and Culture and Values.
>
> The Symposiums were designed to bring to bear the perspective of persons in positions of leadership on the needs of education in our times. Because change is the one certainty we can assume, the Symposium participants were asked to discuss the emerging trends and developments they considered significant for education and to consider what these suggested about the preparation today's young people should have to function effectively as social, professional and intellectual leaders of tomorrow. In effect, they were asked: What advice and guidance can you, from your diverse vantage points, give to educators who are reappraising their policies and practices to provide coherent educational experiences for those who will succeed you in the leadership of our society?[3]

[2] The Regional Commission on Interrelationships of Secondary Schools, Colleges and Professional Schools, Today's Leaders Look at Tomorrow's Learning, University of Pittsburgh, 1959.

[3] Ibid., page 4.

The second aspect of the work was carried out by 21 panels of educators, representing persons at all levels from elementary school teachers to teachers in graduate schools. Each of these panels had a series of meetings and prepared a report on the educational goals that should be achieved in some one subject area at the graduate school, college, or secondary school level.[4]

Another significant action of the Regional Commission has been the establishment of the Coordinated Education Center, a joint activity of the University of Pittsburgh and the Pittsburgh Public Schools, as an organization for planning and demonstrating some of the types of efforts in educational coordination and educational improvement envisioned by the Commission. The Center has helped to coordinate the efforts of joint committees of public school and university personnel in the planning of enriched and accelerated programs for college-able students and has assisted in the actual tryout of these programs in the Pittsburgh schools and at the University of Pittsburgh. Major aspects of this work have been in the areas of curriculum development and provisions for the flexible progression of students from one educational level to another.

It can be seen that the activities which come within the general scope of the efforts of the Regional Commission involve deliberation and planning concerning questions of how the college-able student can experience the optimum challenge throughout his educational career as well as actual tryout and evaluation of specific ideas for achieving this end. This combination of activities has, to those who have been close to the total operation, seemed to be quite helpful in shedding light on the value of certain educational procedures. In the belief that the insights that have been gained may be of interest to many persons concerned with the problems of education, the Commission is now planning to publish a series of reports on certain topics that have been given particular attention. The present report is the first in this series.

This report has resulted from the deliberations and planning of the Regional Commission and from the experience of the Coordinated Education Center in its trial of several programs for the flexible progression of students. It is an effort to glean from these sources the most important thoughts and findings with respect to this topic and to organize the material in a way that will be most meaningful to the reader. It has been prepared by the staff of the CEC with the responsibilities divided as indicated on the title page. Although parts of it are based on deliberations of the Commission, even these parts are more than an editing of discussion sessions. Here the writers took considerable liberty in organizing the material and in adding or deleting ideas and must, therefore, assume primary responsibility for the result. However, all members of the Commission were given first drafts of the report and were encouraged to submit their reactions and

[4]The Regional Commission on Educational Coordination, Panel Reports (mimeographed).

suggestions, and the writers are greatly indebted to members of the group for the help given in this way as well as for the ideas that came out of the original deliberations. Gratitude is also expressed for the contributions made by Dr. J. S. Golay, Provost of West Virginia University; Dr. Evan Ingram, Associate Superintendent of the Pittsburgh Public Schools; and Dr. Robert Paynter, Superintendent of the Baldwin-Whitehall Schools; all of whom were special guests of the Commission at the time these matters were discussed and to Dr. P. W. Hutson who provided his comments on the original draft of this report.

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CHAPTER 1

INTRODUCTION

In a period when many new educational procedures and techniques are being proposed and put into practice it is important that these innovations be examined and tried out and that the knowledge gained through this process be made available to those who must make decisions with respect to the use of such practices. The work of the Regional Commission on Educational Coordination and of the Coordinated Education Center has involved the careful study, planning, trial, and evaluation of certain educational procedures. This report represents an effort to summarize the results of this type of consideration of one specific type of educational practice; a provision for flexibility in the manner and in the schedule by which pupils progress from elementary to high school, from high school to college, and from college to professional school.

Although this study is based on a certain amount of evidence gathered during the actual trial of selected practices, this is not a report of research. Rather it involves (1) a summary of the considerations that gave rise to the study and that pointed to the importance of flexible progression, (2) a description of the procedures that were given a trial and a summary of the results of this experience, and (3) a discussion of the implications of these results including a consideration of the many further questions that have arisen.

Some persons may feel that this type of study would have been strengthened if it had involved research directed to the answering of certain specific questions. However there are many variations that can be followed in providing for flexible progression and the practices described in this report cannot be considered as the set procedures. The important result that should arise from an evaluation of these specific practices is probably not a simple decision as to whether they are good or poor but rather a variety of suggestions as to how they might be modified to make them better and how they could be adapted to a variety of different educational situations. Furthermore, decisions as to whether a procedure is good or poor will be mainly subjective decisions depending upon the needs and the goals that are deemed important in any given educational situation.

For these reasons the procedure followed in the present study was to gather certain evidence on the results of the tryout of the practices involved and to subject those practices to the scrutiny of leaders from a variety of levels and divisions of our educational system, the members of

the Regional Commission. The result of this has been an evaluation of the general practice of flexible progression based partly on the trial programs and partly on the extended experience of the educators making up the Commission and the staff of the Coordinated Education Center. Another result has been the raising of many key questions that must be answered in the local situation by persons or groups concerned with the general problem of how to meet the needs of the able student.

It is the purpose of this introductory chapter, then, to present the considerations that gave rise to this rather intensive study of flexible progression.

Meeting the Needs of the Individual Student

A basic principle underlying much of the work of the Regional Commission and of the Coordinated Education Center is that all students should experience a continuous intellectual challenge commensurate with their varied talents and abilities. This was one of the major recommendations to emerge from the Symposiums of community leaders and the Study Panels of educators sponsored by the Commission. Although this represented merely a reaffirmation of a principle that has long guided the work of most good teachers, it represented a type of reaffirmation and re-emphasis that should be given regularly and frequently. All educators must continually be facing the problem of how we can provide each individual student with the educational experience that will best develop his potential for self-realization and contribution to society.

The provisions for instruction found in the conventional graded school are based on the assumption, recognized or unrecognized, that almost all pupils are alike in their abilities to master schoolwork and that instructional needs can be met by grouping pupils according to age and providing all pupils of a given age with what is essentially identical instruction. Typical examples of this can be visualized in the elementary teacher explaining long-division to her class, in the high school English teacher assigning a certain type of theme to all of his students, or in the college history professor lecturing to a large section of freshmen. It is recognized, of course, that in each of these situations a variety of efforts may be put forth to make some provision for individual needs, but the overriding feature is the uniformity in the content to which each pupil is exposed. A final bit of evidence concerning this acceptance of uniformity may be seen in the great probability that the evaluation of the progress of all pupils in a class will be based on the same examination.

Most persons recognize that this situation is inefficient and unrealistic. Pupils of the same age will differ tremendously in their aptitudes and needs and must have related variations in their learning tasks if they are to have the optimum in educational experiences. However the problem of providing this variation is a complex one and is not easily

solved. Certainly it is not solved by merely having a class for retarded students and certain accelerated courses for the particularly able. Such provisions may be an important part of an effort to meet the problem, but a real solution must go much further than this. Just as there are many variations in the needs of the pupils, so a variety of approaches will have to be employed if these needs are really to be met.

The concern of the present report is with programs for college-able students. More specifically, its major focus is on the possibilities and problems in doing a better job of meeting the needs of these students by permitting them to go through the usual sequential steps in an educational program at varying rates of speed, by employing flexibility in progression from grade to grade and from one institutional level to another. However, so that this type of provision may be seen in its proper perspective, it is important to look at other plans that should also be a part of a total program for providing for the educational needs of students with college potential.

ENRICHMENT

One group of procedures used to provide learning experiences that can more nearly challenge the abilities of able students is generally referred to as enrichment. Although different people will speak of a variety of different activities as enrichment, the term is generally used to refer to plans whereby the student is kept with his age group, in his conventional grade placement, but is given educational opportunities in addition to those which the typical pupil encounters.

The use of enrichment rather than some type of acceleration is based partly on the assumption that keeping a student with his age-group peers and in a somewhat stable and permanent group makes for better personal and social adjustment and growth. Perhaps it is based partly, also, on the idea that, since programs must always be adjusted to individual needs anyway, this adjustment can be accomplished as well under this arrangement as under any other.

A basic difficulty with an evaluation of the practice of enrichment is that the concept has taken on so many different meanings in the actual attempts to carry it out. In some cases the implementation provides the student with the opportunity to go more deeply into the topic under consideration. For example, in geography the student being given an enrichment experience may make a more detailed study of a country than will other students. In arithmetic he may study more applications of certain procedures or may be introduced to more basic number theory. For some teachers the use of enrichment means an opportunity to get the student into activities that will increase his interest and his ability for later self-study and self-direction. To some it may merely mean giving the student larger homework assignments, making certain that he is merely doing more of what all students are doing. In some cases it will mean that students take additional courses.

For example, an exceptionally able student may take an additional foreign language or he may supplement his strictly academic curriculum by taking an extra course in art, music, typing, or home economics. In view of the variety of practices that seem to fall under this general heading, it may well be suggested that persons speaking of the concept of enrichment might employ terms that provide a more specific description of the activity involved.

True enrichment can, of course, only be achieved by making specific plans and preparations. It can hardly be hoped that it will be successful if left entirely to the overburdened classroom teacher with some such injunction as "For the truly able students in your classes you must provide some type of enrichment." This procedure might be successful with a few exceptional teachers, but in the majority of situations, if an activity is to be a true enrichment, it must be given careful thought and planning by school officials working with the teachers.

Many schools and many teachers throughout the country have developed excellent programs for enrichment. The Coordinated Education Center has been very much concerned with this type of provision and has worked with various procedures for achieving this. Certainly it represents one type of activity that must be employed if the schools are to provide a continual challenge for able students.

ACCELERATION

Another approach to providing for the needs of able students is to permit them to move through the curriculum at a faster rate of progress than does the average student. This approach has perhaps its most traditional manifestation in the old practice of the "special promotion" for the exceptionally able student.

The general practice of acceleration for the able student is now being used in a large number of schools and is being implemented in a variety of ways. Many schools have programs for introducing students to certain subjects at an earlier age than is conventionally the case. Biology has been moved from the tenth to the ninth grade. Foreign languages are introduced at a much earlier grade level. Certain communities are using ungraded schools so as to permit each student to progress at a rate suited as well as possible to his individual talents and interests. Teaching machines and programmed textbooks are being investigated by some schools as a means for providing individualization and acceleration. These are only a few examples of the procedures being employed.

The idea of acceleration seems to be based on certain assumptions. One of these is that there is nothing sacred about the grade structure conventionally found in the schools or about the present placement of the various subjects. Much of current practice with respect to this is undoubtedly good but much of it also is certainly a result of tradition. Another assumption is that just because a student is in class groups with pupils of his own chronological age, there is no guarantee that he is with

persons of the same level of maturity and personal development. Many proponents of acceleration might also question the need for a pupil always to be with persons of his own level of development. They could point out that some of the most effective learning takes place in the home where the child is associating with parents and with brothers and sisters, none of whom are very close to him in age. They might also go on to point out that in many cases the able student will have a greater chance for personal adjustment if he is exposed to more advanced subjects or is placed with older students who are closer to him in their educational development.

THE NEED FOR BOTH ENRICHMENT AND ACCELERATION

The work of the Regional Commission on Educational Coordination and of the Coordinated Education Center has been guided by the conviction that if the schools are to do the best possible job of providing for the individual needs and abilities of pupils it is necessary to provide for both enrichment and acceleration. Some pupils will profit most from the one type of experience, some from the other, and some will make use of both. With the infinite variety that exists among pupils, the schools must be willing to employ a great variety in the approaches used to provide them with the education they need. They must be continually aware of the fact that they are dealing with individual pupils.

Flexible Progression

In the work of the Coordinated Education Center programs for enrichment as well as for acceleration have been developed and are now in operation. However the programs described and discussed in this report are concerned only with one limited aspect of this work. Presented here are programs for providing flexibility in the progression of accelerated students from one institutional level to another. This includes plans for permitting certain students to make an early advancement to a higher level in all subject areas, such as when a high school junior is permitted to skip his senior year and enroll as a college freshman, as well as plans for permitting persons to move ahead in only one or a few subjects, as when talented eighth graders take a ninth grade English course in place of the regular eighth grade English. It is this provision of a maximum flexibility in the manner in which students progress through the school program that is referred to as "flexible progression."

The nearly 500 educators from 8 universities, 25 colleges, and 50 school systems who served on the Study Panels[1] appointed by the Commission to provide the goals and guidelines for the plans and programs of the Commission and the CEC, quite generally agreed upon the need for providing greater flexibility in the progression of students in order for the

[1]The Regional Commission on Educational Coordination, Panel Reports (mimeographed).

more able ones to experience the continuous intellectual challenge that would develop their full potential for learning.

The recommendation of provisions for flexible progression was expressed in several ways and attributed to several reasons. It was pointed out that the particularly strong talent or ability of a student should be cultivated continuously, not allowed to lie fallow while he "catches up" in other academic areas in order to meet matriculation requirements. His interest in learning, his motivation, should be stimulated through continuous cultivation of his strong points, even if this means different rates of progression in different subject-matter areas. Also, the exceptionally able student capable of progressing in all areas more rapidly than other students should be allowed to advance at his own best pace, not kept in lock-step with the others.

There are problems to be confronted, of course, in providing for flexible progression. The students' social and emotional maturity must be considered. Nothing is gained if the intellectual talents of a person are developed but he fails to achieve the maturity needed to accept his responsibilities and his place in society. No single pattern of acceleration is likely to meet the varied personality as well as intellectual needs of academically able youngsters. The elementary and secondary schools, especially, have to meet their obligations to less able students as well, so that the needs of the able have to be met in ways that will not disadvantage the others.

Difficult as it may be to meet individual needs within one educational institution at one level of the educational system, the greatest difficulties occur at the dividing lines between institutions at successive levels of the system, between elementary and secondary school, between secondary school and college, between college and graduate professional school. Since it would be highly uneconomical, if not actually impossible, to provide the necessary variety of advanced courses within each institutional level of our educational structure, provision for flexibility in advancing from level to level would seem to be essential.

The Coordinated Education Center, as one aspect of its work, has addressed itself to this matter of providing for flexible progression of students between levels of our educational system. Some of the practices instituted in the CEC's associated institutions (Frick and Falk Elementary Schools, Schenley High School, and the University's School of Liberal Arts and professional schools) are reported in the sections that follow.

CHAPTER 2

REPORT ON THE TRIAL OF CERTAIN PROGRAMS

An assumption underlying the work of the Regional Commission and the Coordinated Education Center in the investigation of procedures that may be used to permit able students to progress from one educational level to another on the basis of ability rather than solely on chronological age is that provisions of this type should be important at all stages of the total school continuum. As a result, the experimental programs that are being tried out involve the elementary, the junior high, and the high school as well as college and graduate schools. This chapter presents a report on these on-going provisions.

Flexible Progression from the Elementary and Junior High to the Secondary School

The activities of the Coordinated Education Center in investigating and demonstrating possibilities for flexible progression from the elementary and junior high to the secondary school have involved three of the Pittsburgh Public Schools, the Frick Elementary School, Herron Hill Junior High, and Schenley High School. Frick School is an eight grade elementary school that typically sends pupils on to Schenley High School for their ninth grade. Herron Hill Junior High, which serves an area neighboring that served by Frick, contains grades seven, eight, and nine and sends students on to Schenley for the tenth grade. As a result, the provisions for flexible progression that have been tried out in this setting have involved both the progression from an eight year elementary school to high school and from a three year junior high to high school. The programs that have been used were intended to meet the general objectives of flexible progression as outlined previously and have included both a provision for advanced work in one area of special competency and a provision for moving students from junior to senior high school so that they can take accelerated work in several subjects.

Since the programs have been experimental in nature up to this point, they have involved a very limited number of students. However extensive planning is now underway for a new elementary school program which will permit students to proceed at varying rates of progress throughout their school years. When this plan is put into operation there may well be a large number of students whose programs will require earlier progression from elementary to high school.

PRESENT PROGRAMS FOR FLEXIBLE PROGRESSION AT THIS LEVEL

One of the first efforts in flexible progression involved the scheduling of six Frick Elementary pupils, having a high aptitude in verbal skills, for a secondary school English course at Schenley High School. It was felt that these students had, by the end of the seventh grade, acquired that competency in the use of the English language which is the usual goal of eight years of instruction and that it would make for a more effective use of their time if they were permitted to go directly into a ninth grade course. This acceleration was felt to be particularly desirable since it would permit them to enter an accelerated English course sequence immediately upon enrollment in high school for their ninth year. It was one step in a total program for providing a challenging and stimulating program in this one field for students who had shown an unusual ability in English. To the staff of the Center and of the Pittsburgh Schools it was also looked upon as an exploration of the general possibility of permitting elementary school students who were particularly able in some one area to accelerate their work in this area by taking secondary school work while still in the elementary school.

During the first semester in which this procedure was given a trial, the Frick students actually went to the Schenley building for the one period per day. In this situation no great problems in commuting from building to building were encountered since it was ordinarily a ten minute walk. However it did require that the pupils involved spend the time of two class periods for one actual class lesson.

In the semester following this initial trial it was felt that the program could be expanded, and sixteen Frick Elementary pupils were identified as having the desired high aptitude in verbal skills. To make better use of pupil time and because of the larger group that would be involved, a Schenley High School instructor was assigned to teach the ninth grade or senior high English course to this group of eighth grade pupils in the Frick building. A regular Carnegie Unit credit necessary for high school graduation is given for this course.

Although any complete assessment of the value of these innovations cannot be made until evidence is available concerning their influence on the subsequent educational careers of these students as they go on through high school, and perhaps college, certain limited types of evidence that can be presented suggest that these experimental departures from the grade by grade system of advancement have been successful. This evidence is as follows:

1. The six elementary pupils taking English at Schenley all earned an A grade.
2. The sixteen eighth grade pupils at Frick studying an accelerated ninth grade English course with a Schenley High instructor all earned an A or B grade at the end of the first semester.

3. When this group of eighth grade pupils took the Advanced Battery of the Metropolitan Achievement Tests during their second semester no student had a grade equivalent lower than 10.1 on any of the five sub-tests dealing with language abilities (Word Knowledge, Reading, Spelling, English, and Language Study Skills) while the mean grade equivalents on these subtests ranged from 11.7 to 12.2.
4. Of the four Herron Hill pupils admitted to Schenley High in advance of their class, one earned high honor standing, two earned honor standing, and one missed honor standing by one point, at the end of the first semester.
5. At the end of the first semester, the six Herron Hill pupils scheduled for French one period each day at Schenley earned 1 D, 1 C, 3 B's, and 1 A.

Only one of these pupils experienced a real social adjustment problem, and after a parental conference and two brief counseling sessions, the pupil was able to make a satisfactory adjustment. All of the pupils involved in these experimental departures revealed, while being interviewed, that given the opportunity, they "would do it again." From this limited evidence, it appears that these programs have been a success.

The importance of the experimental work with programs for flexibility in progression from the elementary or junior high school to high school should not be sought in the specific provisions that have been given a trial so far but in the fact that a variety of provisions are possible and workable. All pupils do not have to spend the same number of years in the conventional first eight or nine grades of school. Also, it is possible for some pupils in the eighth grade to do highly satisfactory work with certain ninth grade subjects. Flexibility in the schedule under which students move from one level to the next can be arranged effectively and can be used as one means of providing for the needs of the able student. The exact form which this flexibility takes can be, and should be, adapted to the institutions involved and to the needs of the individual students.

Flexible Progression from High School to College

The efforts in developing and demonstrating possible procedures for flexible progression from high school to college of the institutions associated in the Coordinated Education Center have been centered largely in three programs:

1. Early admission to college.
2. Part-time college study for high school students.
3. Advanced Placement programs.

All of these programs are based on the assumption that differences in abilities among students in the typical high school are such that the

capabilities of certain talented students can best be challenged by permitting them to progress to college-level study while the majority of their classmates are working through the conventional high school curriculum. The specific practice that will be most satisfactory in any particular situation will depend both upon the abilities of the student and the opportunities available to him. But the objective of each of these programs for flexible progression between these levels is to remove, for the talented student, the barriers to true acceleration that are inherent in an absolute division between high school and college level courses.

EARLY ADMISSION TO COLLEGE

The program whereby carefully selected students who have just completed their junior year in high school are permitted to skip their senior year and to enroll as college freshmen was instituted at the University of Pittsburgh in the fall of 1959. Thirteen students were enrolled under this procedure during that first term and an additional nineteen students entered the University under this provision in the fall of 1960. During this same period the Johnstown College of the University of Pittsburgh had 6 early admission students. The success of the program as seen in the performance of these students has resulted in the decision to continue with it.

All students participating in this early admission program are carefully screened before being selected. This involves careful attention to the stage of their personal and social adjustment as well as the expected scrutiny of their academic achievement and aptitude. To be considered for early admission a student must first be nominated by the officials of his high school as a person who has the necessary qualities for success in this type of program and who is likely to benefit from it. It has been suggested that in considering academic ability, school officials think in terms of pupils who rank in the upper 2 per cent of their class and who have College Board SAT scores of 600 or above. However, the high school people are encouraged to use their judgment in departing from these suggested standards where other evidence indicates that a pupil has the needed ability. As is the case with all students admitted to the University, the final screening is carried out by the University Admissions Office.

From the record of the two years during which the program has been in operation it would seem that it has been a definite success both from the point of view of the students involved and of the University. All participating students, both on the campus and at Johnstown College, have been interviewed concerning their reactions to their experience. The general reaction has been one of great enthusiasm for the program. Students report that they have welcomed the opportunity to take course work that has been more challenging to them and to be in classes with students who have more concern for academic achievement than does the typical high school student. Most of them were also attracted by the opportunity for accelerating their educational careers. Many are combining early admission with the year-round study possible under the University's trimester

calendar to obtain an unusual degree of acceleration. In one case a student at Johnstown College enrolled as an early admission student in September of 1959 and was accepted for admission to medical school as of the fall of 1961. That is, under this accelerated program it would be possible for him to be entering medical school at the time at which he would be starting his sophomore year in college had he followed standard procedures in progressing from high school to college and in taking college work.

As might be expected with any group of students there has been some variation in the academic performance of the early admission students. Their records show a range from those students with a straight A average down to those students who have earned some D grades. However, the average for the total group for all terms spent in college is in the B+ range so it would have to be reported that, as a group, these students have been very successful in their academic work. Several have been on the Dean's list at each grading period and a number have been elected to various honor groups.

Also, these students have been generally very successful in adjusting to the non-classroom aspects of college life. Interview results indicate that they do not feel that the relatively young age at which they entered college has been any handicap to them. Some of them are taking part in such activities as debate, student government, and varsity athletics. It is interesting to note that an early admission student was elected queen of the University's "Greek Week" activities during the spring of 1961.

In the interviews these students were questioned concerning their feelings about missing the activities of their senior year in high school. Although a few expressed some regrets about this, the majority felt that this was no sacrifice, and many stated that they were taking part in the same activities in college that they would have participated in had they remained in high school. Many of those who have completed their first year at the University report that they not only received their high school diplomas but were also invited back to take part in all of the commencement activities at their schools.

The general finding with respect to the early admission program is that it has been very successful in its operation with the limited number of students who have been involved up to this point.

PART-TIME COLLEGE STUDY FOR HIGH SCHOOL STUDENTS

Another aspect of the program of the Coordinated Education Center in exploring ways of providing for flexible progression from high school to college involves having selected high school juniors and seniors come to the campus to take college courses while they are still enrolled in high school and are taking most of their course work there. This program, of course, requires that the pupil be able to commute easily to the campus for his college class and still not lose any sizeable portion of time from his high school day. With the exception of one student from the Ellis school

all students who have been involved in the part-time program, up to the present, have come from the neighboring Schenley High School. Since students from Schenley have only a three or four block walk to get to University classrooms, those involved have had a minimum problem in commuting.

This program has not involved any large number of pupils. In the first four terms during which it has been in operation 6, 3, 12, and 17 students, respectively, have taken college classes. They have been enrolled in such courses as English, biology, French, anthropology, economics, speech, psychology, and mathematics. The cumulative record of the performance of these persons through the fall term of 1960 shows a total of 6 A's, 8 B's, 6 C's, and 1 E.

The results of interviews with many of these students indicate that they feel it is a worthwhile procedure. They point out that it permits them to take advanced courses of interest and importance to them which are not available in the high school. They add that it is stimulating to be in classes with college students.

Another strong point in this program, from the point of view of the student, is the fact that passing the course assures him of college credit. That is, this is not contingent upon how a college evaluates the results of his performance on a test, as is true of the Advanced Placement program.

This provision for part-time college study can permit a student to get a substantial start in his college study before he leaves high school. For example, one student involved in the program accumulated 12 college credits before graduating from high school.

The program does pose some problems. Since high school and college classes do not run on exactly the same time schedule, a person taking a one period college class would probably have to miss two high school periods even when the two institutions are as close as Schenley and Pitt. Also there is the problem of finding the proper college class available at the time a student can have free periods in his high school schedule. In the case of some of the Schenley pupils these problems have been partly overcome by making use of eight o'clock morning classes (starting before the beginning of the high school day) or late afternoon classes.

Despite these problems, it is felt that the merits of this plan for part-time college study are such that it should be continued and expanded. Present plans call for making opportunity for part-time study available for capable students from any Pittsburgh high school when the proper provisions for scheduling and transportation can be arranged.

The University has also taken some definite steps in investigating the possibility of a program for offering selected freshman-level courses for high school students during the six-weeks summer session. This plan would be intended mainly for persons who had just completed their junior year and who wished to gain this college experience and these selected credits before going back to their senior year in high school. Such courses might also be open to students who had just completed the senior year.

Another program that is being given a trial by the University is that of offering a freshman-level course at an outlying high school center. This course offers college credit and is available to able seniors in several high schools that are within easy commuting distance of the selected central school. The present program involves only this one course at this one location, but the feeling is that this general procedure may be of great value in providing for flexibility in progression from high school to college in many areas.

THE ADVANCED PLACEMENT PROGRAM

The work of the Coordinated Education Center in connection with Advanced Placement courses has been in the relatively minor role of helping to establish some set standards as to what grade a pupil must make on a particular AP test in order to be assured of (1) advanced placement in college and (2) credit for college courses.

Carnegie Institute of Technology has taken the major initiative in encouraging the offering of Advanced Placement courses in the high schools of the Pittsburgh area. It has had foundation support for special summer programs for training teachers to teach the courses in history and English. High schools in the city of Pittsburgh and many other schools in the area now offer a variety of Advanced Placement courses. Officials of the University of Pittsburgh realized, however, that if these schools were to have continuing success in encouraging students to take AP courses and to avail themselves of this opportunity for taking college-level courses while still in high school, some steps should be taken to assure these students of college credit if they performed satisfactorily on the AP tests.

A situation that has been somewhat discouraging to many persons who have taken AP courses is that there is no set standard as to the placement or credit a student might get for a given test performance. In many cases a student must take the test, submit this record of his performance to the college he plans to attend, and then wait for officials of the college and department to make the decision as to what placement or credit is to result.

It was felt that the CEC could take some leadership in helping to resolve this situation in the local region by having local college and university officials decide what test score would be necessary for specific placement and credit (if any). To further this end, meetings were held involving officials of the University of Pittsburgh and Carnegie Tech. Although work on this matter is still underway, many departments at Pitt have already established set policies for determining what will be earned as the result of obtaining various scores on the AP examinations. It is felt that this effort constitutes at least a minor contribution toward the further use of Advanced Placement courses as a method for providing for a degree of flexible progression between high school and college-level courses.

Flexible Progression in Higher Education

Certain developments within the University of Pittsburgh show promise for providing that flexibility and continuity in the program of each individual student which has been a major aim of the efforts of the CEC. Provisions for flexible progression of students between levels within the University are of two sorts: (1) those having to do with progression from broad general education in the lower division to concentration in depth in the upper division undergraduate liberal arts program, and (2) those having to do with progression from liberal to professional education programs.

The general objectives of these programs are much the same as those underlying the use of programs for such flexibility in progression as are used between other levels in our educational structure. Certainly, here acceleration may be acknowledged as a legitimate objective. This should not be acceleration for acceleration's sake so much as for the sake of enabling rapid learners to carry their formal education further and still begin their productive careers at a reasonable age. Nowhere more than in higher education should the open-endedness of the fund of human knowledge and of possible individual competency justify every effort being made to save the students' time.

If there is a distinctive reason in higher education for providing flexible progression it is that, by so doing, fruitful interaction may be fostered between professional programs and their underlying academic disciplines and between liberal learning and professional competency.

FLEXIBILITY WITHIN THE UNDERGRADUATE LIBERAL ARTS PROGRAM

The School of Liberal Arts seeks, in its lower division, to assure that students become acquainted with the full range and diversity of human knowledge and acquire adequate competence in such skill subjects as English composition, foreign language, and mathematics, so that they will be well oriented and equipped to pursue concentrated studies in depth in the upper division.

The School has been reorganizing its curriculum to better serve these purposes. This has involved designing core courses and redesigning first courses to meet general education needs rather than to serve exclusively the narrower interests of each department's future majors. It also has involved setting standards of competence in skill subjects to be achieved at the lower division level so that the skills are ready for use in the more concentrated studies in depth at the upper division level.

As the curriculum reorganization proceeds, the possibilities for flexible progression of students increase. The emergence of more clearly and rationally defined standards of knowledge and competence against which to measure student progress permits less reliance to be put on fixed dosages of courses and credits arbitrarily prescribed for all. Although the

curriculum reorganization still is in process, it already is having important consequences.

The award of credits toward graduation as well as advanced placement, under the CEEB Advanced Placement program, now is feasible. Skill subject competency can be demonstrated on placement examinations without the student having to take prescribed courses. Students, therefore, are enabled to progress more nearly at their own best pace through their general education and into concentrated studies in depth.

Much has yet to be done, however, before satisfactory flexibility of progression between these levels can be provided. Placement testing instruments need improvement, especially in foreign languages where the new oral-aural approach has complicated the matter. Changes in the approach to mathematics, the physical sciences, and other subjects also pose problems for placement testing. And even if and when these are solved, there are other problems related to the needs of students who, while still liberal arts undergraduates, are intellectually able to range more widely and to dig more deeply than they find opportunity to do in the standard course work, wherever they are placed.

For these last, the School of Liberal Arts is instituting a new honors program. Details of the program are not strictly relevant to the consideration of flexible progression between levels. What is relevant is the fact that able undergraduates will have the opportunity and be encouraged to learn independently and thereby to advance intellectually at their own best pace beyond the standard undergraduate experience. And this becomes especially important when considered in conjunction with the mortising of liberal and professional programs and the terms-of-residence method of gauging graduate study progress, as described below.

FLEXIBILITY BETWEEN LIBERAL AND PROFESSIONAL OR GRADUATE PROGRAMS

The University of Pittsburgh has adopted as one of its principal objectives the development and provision of programs to meet the needs of students who want <u>both</u> a liberal and a professional education. The University believes that by planning the liberal and professional programs together rather than by simply superimposing one upon the other, both can be strengthened and the student can progress more smoothly to his goal of becoming a liberally educated, professionally competent person.

The key concept, and it is not yet much more than a concept, is what the University refers to as "mortised liberal-professional programs." By "mortising" is meant the beginning of appropriate parts of the student's professional studies before he completes his liberal studies and the continuation of liberal studies during his professional education. The practice is intended to serve several purposes. It is expected to eliminate gaps and duplications in content between the liberal and the professional programs, to strengthen the relationship between the professions and their basic disciplines, to make liberal learning more meaningful and its lifelong pursuit more likely for strongly career-oriented students, and to en-

courage the able liberal arts student to pursue professional study or graduate study in the disciplines by avoiding any sharp, dropout-tempting break between the two levels.

Mortised liberal-professional programs also promise to provide greater flexibility for student progression and, in that regard, are relevant here. Avoidance of a rigid division between the conventional levels or layers will permit students to progress along an uneven front, each at his own best pace. Theoretically, a student could earn his professional doctorate before completing his liberal baccalaureate degree requirements, but this would be an unlikely extreme. The specific pattern of mortising would differ from profession to profession, of course.

The School of Education now is developing a so-called "Five Year" program which mortises a full-fledged liberal education and master's level professional education into a single, integrated program covering 11 terms (3 2/3 years under the trimester calendar). A transitional "Fifth Year" professional master's program for liberal arts graduates was put into operation first.

The Engineering School has instituted a program under which, in 9 or 10 terms, students can both earn a professional degree and get a full-fledged liberal education and arts degree, with a major in an academic discipline. Other professional schools at the University are moving in the same direction.

These mortised programs are distinct from the more familiar 3-2 and 4-1 programs in that the student progresses through one integrated liberal-professional program instead of going from a liberal to a professional program at any fixed point. And this affords greater flexibility in his progression.

If the benefits of flexible progression below the graduate level are to be real rather than illusory, it is necessary that graduate programs themselves not be rigidly defined in terms of courses and credits accumulated. Progress toward a doctorate, for instance, must be measured instead against some specifiable goal of behavioral competence. In order to do this, the University already has substituted a terms-of-residence system for the credit-accumulation system in doctoral programs and has scheduled its extension to master's degree programs. Terms of residence are simply measures of the distance a student has to go to achieve the prescribed competence and may be calculated independently of the course work or other educational means the student may employ to achieve the competence.

CHAPTER 3

AN EVALUATION OF FLEXIBLE PROGRESSION

The preceding chapters have discussed the rationale underlying the use of programs for flexible progression and have described certain experiences in the application of selected procedures for achieving flexibility. A logical next question would seem to be one concerning the implications of the results of this work. What is to be learned from this?

It would be most satisfying to those who have been involved in this work, and probably to the reader also, if, after the experiences described, some exact directions could be given as to how educational practices should be changed and if predictions could be made concerning the exact results that such changes would produce. To be able to say that in given educational situations certain flexible progression procedures should be introduced because specified desirable results will follow would provide a most satisfactory conclusion to this report.

Unfortunately, most problems in education are of such complexity that simple solutions having wide applicability are seldom achieved. This difficulty is due partly to the fact that human learning is influenced by a number of factors that differ greatly from one school situation to another. As a result, a procedure that is highly effective in one school may be relatively ineffective in another. The difficulty is also associated with the lack of any one or even any limited number of generally accepted criteria for judging the total worth of an educational practice. There are an almost unlimited number of possible criteria, and different persons and different groups will not agree as to the exact goals that are to be considered of greatest importance. For these reasons, if any educational program is to be appraised and considered for adoption in any great variety of specific situations, predictions as to exact outcomes or simple answers as to whether the program is good or bad are generally not very realistic nor of any real value. Rather, if such an assessment is to be meaningful to any large number of educators, it should provide a variety of types of information that will aid the reader in making his own decision as to what the program may do for his situation. It is this latter type of evaluation that it was felt would be of most value in the appraisal of the programs that are the subject of this report.

This study offers many important suggestions that should be given careful consideration by anyone who is attempting to solve the problem of how best to meet the needs of individual pupils. The evidence presented in the preceding chapter indicates that students can make excellent records

of achievement in a variety of types of accelerated educational experiences arranged as a part of programs for flexible progression. It also suggests that, in general, most of these able students can adjust very well to such experiences and are quite enthusiastic about the opportunity provided by them.

In the trial of these programs, as in most investigations of educational problems, certain questions have been answered, but an even greater number of questions have been raised. In view of this situation it seems important not only to report results obtained but also to present the further questions and issues raised by the study. This is a major purpose of this concluding chapter. It will consider not only those points and those questions encountered by the persons most actively engaged in conducting and evaluating these programs but also those raised by members of the Regional Commission in their over-all review and discussion of the entire concept of flexible progression. In the case of many of the questions raised, certain possible answers are suggested. In other cases the only attempt is to aid in clarifying the issue so that persons considering the adoption of any of these plans will be fully aware of the many problems that must be considered.

In presenting these questions and considerations this chapter will deal with them in certain context categories which can serve to center attention on the important elements involved. These are elements which have an influence on provisions for flexible progression and acceleration and which are also influenced by such provisions. The categories used are (1) the able student, (2) the program, (3) the teacher, (4) the organizational structure of the school, and (5) the total student body.

The Able Student

Provision for flexibility in the manner in which a student moves through a school program is not something that applies only to the able student. If there are to be different rates of progress, the average and below average student must be as much a part of this differentiation as is the very capable student. However, since the typical school program must be planned for the large group of "average" students, one of the first problems in arranging for flexibility is that of identifying those able students who are to be given something other than the typical program. A first question, then, is this: What students should be selected for an accelerated program in moving from one school level to another?

An obvious first criterion to be used in choosing persons for an accelerated educational experience is that of a demonstrated superior academic ability. However in using this criterion one is always faced with the question of just how superior a student must be. If standards are set very high (such as with the requirement that a pupil should rank in the upper 2 per cent of his high school junior class if he is to be considered for early admission to college) the chances that any of the accelerated pupils will fail are reduced to a minimum. However these standards may also be keeping out many persons who should be included. It may be con-

signing many able students to a program of study that is much less stimulating and challenging than would be suitable for them. For the ideal operation of a program for flexible progression the problem of setting the standard of academic ability for the identification of the able student is not solved through the simple expedient of setting the standard as high as possible.

In considering the academic qualifications of students it is important that both past performance and academic aptitude be examined. Of course, with the majority of students there will be a close relationship between the two. The student with a high measured intelligence will also have an outstanding scholastic record. However the correlation here is far from perfect. Many factors, in addition to aptitude, have a relationship to classroom achievement. The counselor or whatever person has the responsibility for selecting students for accelerated programs has some real problems in making his decisions. What about the student with an outstanding scholastic record whose scores on tests of intelligence or scholastic aptitude are somewhat below that desired? Is this a person who has the other qualities that can compensate for the lack of high aptitude and can be expected to show excellent achievement if exposed to advanced work? Or is this a student who, through extremely diligent application, is performing up to the limit of his capacity in doing excellent work with the conventional material for his age and grade but who would definitely be beyond his capacity in attempting any accelerated study? No simple guides are available to aid in making decisions in cases of this type, but certainly these questions must be raised.

A different problem is raised by the case of the student who has a high measured aptitude but whose academic record is not outstanding. Is this a student who simply does not have all of the other qualities necessary for classroom achievement and who would be expected to fall even further behind if given any type of advanced work? Or is he a student who is unchallenged by the conventional program, who as a consequence has developed poor habits of application to his work, and who might be expected to be stimulated to much greater effort and related excellence in performance if placed in an accelerated program? Is he a "late-bloomer" who is just about to "find himself" in the academic environment? Certainly these latter types should not be overlooked in the selection of able students.

This suggestion of the need for considering certain exceptional cases where students may not meet exactly certain specified criteria must not be taken to indicate that definite standards are not necessary. Measures of previous achievement and of academic aptitude are key screening measures and provide the most objective data available. It is important that standards be established on these criteria. One major reason for this is that it provides a means of guarding against pressures for the admission to these special programs of students who are not truly qualified, pressures that might be used, for example, by influential parents who are seeking the status associated with such selection.

Of course, as is suggested by some of the above cases, many factors other than academic qualifications must be considered in screening students for programs of this type. Attention must be given to factors of personal and social adjustment. Persons doing the selecting must ask themselves if this student is the type who could be expected to rise to the challenge of a more demanding program or if he is one who would be more likely to react negatively to such a situation, one who would be somewhat frustrated and consequently fail to apply himself to the work. They must also consider the needs of the student as far as his social development is concerned. Is this a person who really needs to stay with his present group if he is to have the experiences he needs for achieving some degree of social adjustment? Is he the type who, if taken away from his present group of peers, would be likely to fail to find friends in the new environment and who consequently would have an experience that would affect both his academic performance and his own personal adjustment? We are now in an era when it has become somewhat unfashionable to show much concern for the role of the schools in the "adjustment" of pupils, but this must not be permitted to blind school people to their very real responsibilities in this area. Educational programs that in their sole concern for academic attainment give no attention to problems of pupil adjustment are likely to fail, both in terms of the academic results achieved and in the likelihood of any real contribution being made by persons who are products of such programs. While our country needs to have our most able students achieve the highest possible levels of education, it is also true that the highly educated genius will not realize his potential either for personal development or for contribution to society if he is so maladjusted as to never engage in any productive endeavor.

Questions concerning the effect of the experience on the personal and social development of the student are particularly pertinent when one is concerned with the selection of persons for flexible progression from one institutional level to another. Here a pupil is being removed entirely from one institutional environment and placed in another. In doing this he will probably be moved from one school where the total group of students consists of those who are his age and younger to another school where the group consists mostly of students who are older than he is. Such would be the case, for example, when the junior high school student would skip the ninth grade and enter the tenth grade at a high school. To call attention to this aspect of flexible progression is not to suggest that this situation is necessarily either generally good or generally bad. For some students this type of move could be a very desirable experience. For others the consequences could be undesirable. Again, this is merely another consideration that must be of concern in the identification of the pupil who is to experience accelerated progression.

In the concern for problems of pupil adjustment in placing students in advanced classes one must be aware of the fact that such problems can also arise when students are left in the conventional school program. It

may be very frustrating for the capable student if he is kept in a situation where his abilities are not really challenged. As was suggested previously, this situation may well result in poor personal habits of study and general application. It may also be true that the student with a high level of aptitude will experience his most satisfactory social adjustment when he is with students who are older chronologically but who are closer to his level in mental age. Results from interviews with persons who were given early admission to college suggest that this may be true. All of this indicates that it is entirely unrealistic for a person or an institution to decide not to become involved with programs for acceleration and flexible progression because of the dangers involved in resulting student adjustment problems. It may well be that an equal contribution is made to these problems when such programs are not employed.

It should also be added that, despite the previous emphasis on the need for a real concern for problems of pupil adjustment, in dealing with talented pupils there is always the possibility that one may be overly concerned with such problems or may be using improper standards in identifying them. In selecting such pupils one is looking for the exceptional and the unusual student. One is seeking the student who does not truly "fit in" in the ordinary school program, the one who is not challenged by such activity. Such a student probably cannot always be judged by the same standards of adjustment as apply to the average pupil. This consideration further complicates the problem of selection but it is certainly a consideration that cannot be ignored.

It can be seen from this brief review of the many factors that must be taken into account in selecting students for a program involving flexible progression that there is no simple set of objective measures that can provide a basis for decision. Certain types of objective data must be taken into account but these must be supplemented by a variety of types of information that will be gained through subjective impressions and judgments. This situation again points to the need for an adequate staff of persons with the time and the competence necessary for making these decisions. It emphasizes the importance of an adequate guidance and admissions program and for well-trained staff members in these activities as well as in the teaching and administrative functions.

The Program

The specific programs described in earlier chapters of this report are to be considered only as examples of what may be done in providing for flexibility in the manner in which pupils move from one institutional level to another. As was stressed in the earlier discussion of enrichment and acceleration, the infinite number of variations found in the abilities of students requires that, if their needs are to be met, a variety of programs must be employed. Consequently, in any situation where an effort is being made to use flexible progression, a great number of specific ar-

rangements may be found to be worthwhile. In fact an important point to be made in considering the merits of flexible progression is that, since most arrangements will make use of already existing courses and programs, it will be possible to introduce a great number of variations in the procedures for progression with a minimum of change in over-all curricular offerings.

One type of possible program in flexible progression is that where a student is permitted to take advanced work in one area that may be of real interest to him and where he has shown unusual ability. An example of this is the case of the high school student who is permitted to enroll in a college course or the junior high student who takes one course in the high school. These persons are remaining in the typical program of progression for most of their school work but are being permitted and encouraged to develop some special talent they seem to have. This type of provision would seem to be a rather natural extension of a school's concern for the individual differences found among students. Not to provide for this intensified and accelerated work in an area of interest and competency may serve not only to retard the development of a person with an unusual gift but may be so thwarting as to destroy interest and eliminate the potential contribution of the individual.

However, an important question raised in connection with this type of program is that of how far a person can go in accelerating in an area of specialization before he will become handicapped by being relatively far behind in a related area upon which his specialization is somewhat dependent. For example, a person could not go too far ahead in advanced science courses before he would find a need for relatively advanced courses in mathematics. The person following a conventional program could quite easily be progressing at relatively the same rate in both math and sciences while the accelerated student might find it impossible to do this.

To take a more general example, there would be the cases of students progressing rapidly in certain subjects but whose advancement in basic communication skills, in the use of our own and other languages, could not proceed as rapidly. This could be a handicap in many ways. This thought has led some to suggest that if able students are to be permitted to accelerate rapidly in any one limited area that this should be in the area of such basic skills. They point out, for example, that a rather general handicap of high school students going on to college or of college students going on to graduate work is a lack of a real proficiency in the use of language. They stress, furthermore, that since communication is such an essential aspect of any type of scholarly endeavor, the person who has a high proficiency in this has command of one of the essential tools for success in advanced study and work in almost any area.

These all certainly are points that need to be given consideration. Some type of balance in student development must always be a matter of concern. However in the sample programs described in this report, or in any programs that could be executed in most school situations, it is unlikely that a student will be pushed too far ahead in one limited area.

The Teaching Staff

In any plan for the improvement of educational programs a key concern must be for the availability of a teaching staff that is adequate both in competency and in numbers. This will be a particular problem where the goal is a greater individualization of instruction so as to meet the real needs of all pupils. In programs where this is an aim each pupil will typically require more of a teacher's time and each teacher will have to be prepared to deal with a greater variety in the body of content.

A final and completely satisfying answer to this problem will undoubtedly involve a larger teaching staff. In connection with this, of course, there is a great need for a careful and continuing investigation of how newer instructional media such as teaching machines and programmed textbooks can be used to provide for individual self-instruction. However, among those who are the real leaders in this development there seems to be no feeling that such materials will ever reduce the need for teachers, so that although they may well be an aid in the individualization of instruction, they will not reduce the need for larger teaching staffs.

Staff needs must certainly be given careful consideration by school officials who are planning programs of enrichment or acceleration. If a teacher is to develop and supervise enrichment experiences for his able students he will need to spend more time per student both in planning and in carrying out the instruction. Of course the teacher involved will have to have unusual competencies both in the subject matter to be taught and in the ability to arrange educational experiences that will permit pupils to progress on their own. Programs of acceleration which involve the introduction of additional courses will also require more teachers.

The provision of the opportunity for the flexible progression of students from a school at one level to a school at the next higher level is one aspect of acceleration. Taken by itself, the use of flexible progression should make relatively modest additional demands in terms of teaching staff. This has been suggested as one of its merits. It fits accelerated students into existing classes and makes use of the staff already teaching these subjects. The relatively simple ways in which flexible progression has been tried out in the schools affiliated with the Coordinated Education Center have resulted in no need for additional staff. It has been accomplished solely through the movement of pupils or the movement of a teacher.

Also, flexible progression by itself does not require greater competencies in teachers. When pupils are ready for advanced work they are placed under the instruction of a person already teaching that material. The intent of this type of program is to make the most effective use of existing classes and available teacher competencies. If a teacher is well qualified to teach the courses that are his regular responsibility, he is qualified to play his part in a program for flexible progression.

The Organizational Structure

Many questions can be raised concerning the relationship between a program for flexible progression and the organizational structure of a school system. These include questions concerning the effect that a particular organization might have on such provisions as well as those concerning how planning for such provisions might have implications for the modification of the organizational structure.

The school systems of this country are marked by considerable variety in the "housing" arrangements for grades 1 through 12. Widely used plans are the 8-4, the 6-3-3, and the 6-6 patterns, but a variety of other arrangements are also found. It might be suggested, somewhat parenthetically, that since there is so much flexibility between schools in the determination of which classes should be assigned to the elementary, the junior high, and the high school buildings, we have somewhat of a precedent for a corresponding flexibility in the way in which pupils move from one building to another.

Certainly flexibility in the time and manner in which students move from the junior high years to the senior high should be much simpler to provide where grades 7 through 12 are all housed in the same building, as is true under a 6-6 pattern. Many schools operating under this plan have worked rather naturally into a limited amount of this type of flexibility. In most school systems the definite identification of certain courses with certain grades and a rigid progression from grade to grade breaks down to some degree in grades 10, 11, and 12. A chemistry class may include some eleventh graders and some twelfth graders. A first year course in a foreign language may be made up of students from different grade levels. Situations of this type are a recognition of the fact that there are variations in the times when pupils can and should take these courses. Would a natural extension of this idea be to have the last six years of public school all in the same organizational unit and then to permit much greater individual planning in the course sequence followed by each student? Why can't we have the same flexibility in the last six years that we typically have in the last three or four years?

Perhaps we have some precedent for the idea suggested in the above questions in the developing idea of the "non-graded elementary school." Here we have a definite break from the rigid year-by-year, grade-by-grade progression of every student. Under plans of this type some students may complete the work of what is now the first three years or perhaps the first six years of school in about two-thirds of the usual time. Others will take the accepted standard amount of time while still others will require more than this. Pupils move from experience to experience according to their own best schedule rather than on a rigid chronological basis. If this provision is desirable during the first six years of school, why should it not also be desirable during the last six years? Would not the "non-graded junior-senior high school" be an important adaptation that would probably be much easier to institute than its parallel in the elementary school?

The consideration of the non-graded elementary school should point to another feature that has implications for provisions for flexible progression. What happens to the student who completes what are now the first six grades of elementary school in four or five years? One answer is that he will be kept in the elementary school but will be given enrichment experiences and certain accelerated work. But is this the most effective arrangement? Does this result in an unnecessary duplication of planning and teaching effort? If the normal grade-by-grade sequence of subject matter and educational experiences is the best that can be developed (which it hopefully should be), why not permit the able student to progress through this rather than develop another separate and somewhat duplicate program? It would seem that a reasonable extension of the flexibility that is provided in the non-graded elementary school is a provision for flexibility in the manner in which students move from the elementary school to the junior high school.

From the foregoing considerations it can be seen that the way in which a school system is organized can have a considerable influence on the needs and possibilities for flexible progression. This also suggests that when a system is being organized or reorganized, some thought should be given to what organization will provide the greatest opportunity for truly fitting instructional programs to the individual student.

The possibility of making use of provisions for flexible progression also has implications for the physical location of school buildings. Some of the programs that have been tried out within the scope of the activities of the Coordinated Education Center have been possible because of the relative proximity of the schools involved. Eighth and ninth grade students were able to take a course in high school because it was convenient to walk from their schools to the Schenley High School. Should persons planning school building programs consider the needs for this type of flexibility in locating school sites? A need to travel any great distance from any given school to one at the next higher level could practically eliminate the possibility of student commuting to take advantage of one or two higher level courses.

However, distance between institutions is not the same handicap under programs in which a teacher from one school travels to one offering lower level grades in order to teach an advanced course. For example, the program under which high school students come to the University of Pittsburgh to take one college-level course has been found to be feasible only for students in high schools relatively close to the campus. However, other programs are now being carried out in which a college professor goes to a high school to offer a college course to high school students. Likewise, as reported in a previous chapter, a high school teacher has traveled to an elementary school to teach a ninth grade course to eighth grade students.

This latter type of provision, while not as dependent upon the proximity of institutions involved as is a provision requiring pupil commuting, has resulted in some minor questions. Is it as stimulating an experience

for a student to stay in his own school and be taught an advanced course as it is for him to go to an institution at the next level and actually sit in an advanced course with students who are at the advanced level? Questions concerning this, when raised with high school students who were taking one college course revealed a nearly unanimous opinion that moving into the actual college classes was an exciting experience. This, of course, does not mean that it resulted in a higher level of achievement than would have resulted if the college-level course had been taught in the high school.

A related question is one concerning the comparability in quality of a course taught in its traditional institutional setting and the same course taught in an institution at a lower level. Does the removal of a course from its typical institutional context have an influence on the quality of the course? The answer to this might well be "yes" if the course involved is one that requires extensive facilities, such as laboratory equipment, that it is impossible to duplicate at the lower institution. With other types of courses, the answer would probably differ from situation to situation but would certainly require attention and study.

The Total Student Body

In the development of any educational program that is likely to result in an emphasis on the needs of one segment of the student population, questions must always be raised concerning the effect that this will have on the total student body. In situations where programs for acceleration and flexible progression are considered, many thoughtful persons will be quick to point out the danger that in a concern for the able students, the bulk of "average" students will be neglected. This is a danger and one that must be given careful consideration.

Under the ethical principles upon which our country is founded, all pupils have an equal claim for the optimum education their talents and interest will permit. Also, in a democracy the nation as a whole can progress no more rapidly than the basic decisions of the majority of the citizens will authorize. For example, as has been pointed out by many leaders, if our country dropped behind the Russians in the late 1950's in certain developments in rocketry and space exploration, this was not due so much to a lack of scientists and technicians equipped to carry out the needed work, as it was to a lack of willingness on the part of the American public to devote the necessary funds and effort to this type of endeavor. The reasons for the lag were not the lack of persons competent to carry out the needed tasks but the lack of political decisions, ultimately resting upon the great majority of "average" persons in the nation, that this work should be carried out. The education of the average student is of paramount importance. Certainly any steps that improve the educational opportunities of able students at the expense of the opportunities for the majority could result in a danger for our country.

Of course there is nothing about programs for acceleration and flexible progression that necessarily means a concentration of efforts on the needs of the better students and a neglect of the others. The point being made here is that this imbalance in emphasis is a possibility and one that must be guarded against very consciously and carefully. It has certainly been true that in some cases a temporary concentration on programs for the able students has led to an unfortunate, even though brief, neglect of the others. Perhaps it may be said that this latter type of situation is really only a correction of an imbalance that has for some time worked to handicap the able student. In many cases an adjustment is probably necessary, but certainly it should not involve even a temporary neglect of any segment of the student population. Educators must constantly be working to improve courses of study in all areas and for pupils at all levels of ability. This is certainly a continuing need and one that is particularly urgent in a time when important new content and methods of presentation are being developed at an increasingly fast rate.

A closely related consideration that should be pointed out concerns the special needs of the non-college bound students. A point might well be made that this large body of people needs greater attention from the elementary and high school than does the college bound group. If there are defects in the twelve-grade education of the latter group, there is a good possibility, or at least a hope, that these can be corrected in college courses. But non-college students do not have this opportunity. If their education is to equip them for fulfilling their responsibilities as intelligent citizens and to give them the background necessary for success in their work, this must be accomplished through the programs of the first twelve grades. Of course, these arguments in favor of strengthening the education of these latter students are not intended to suggest any neglect of college preparatory programs. Again, they are merely emphasized to point out that our concern for able students must not result in a lack of concern for the important needs of others.

If, as has been emphasized up to this point, the introduction of programs for acceleration and flexible progression could sometimes produce certain poor results as far as the educational opportunities for the total student body are concerned, it is equally true that the introduction of such programs could lead to many improvements in the total educational program. In fact, a strong case can be made for the point that these programs, if properly planned and carried out, should provide an effective and efficient means for improving the educational experience of pupils at all levels of ability.

As has been pointed out, a provision for letting each pupil move through the planned courses and course sequences at his own best rate does not involve the development of new courses or new sequences. Use is made of the existing sequence. Hence, no special emphasis on new courses for the able student is required. Any special emphasis should be on an improvement of the regular courses and curricula that are to be experienced by all pupils, although at varying rates of progression. The

introduction of flexible progression should lead to the careful examination of all courses, to the study of the place of each course in the educational sequence, and to general curriculum improvement.

It should also be true that a general use of acceleration and flexible progression will contribute to more effective instruction within a classroom. When students progress at their own rates, each pupil should be in a particular class or encountering a particular educational experience at a time when he is best prepared for this experience. Pupils would not be held back or pushed ahead merely so that they could be in classes with persons all of the same age. This should make for greater homogeneity with respect to readiness for the particular course experience and a resulting simplification of instructional problems.

From all of the foregoing discussion it can be seen that the introduction of programs for acceleration and flexible progression must be carried out with great care so that they do not favor the able students at the expense of the greater number of average students, but that if the introduction is carried out properly, it could lead to a more effective educational program for the total student body.

Summary

Actual acceleration in the total educational career of an able student is not possible when he is required to spend the same number of years in the elementary school, the junior high, the high school, and college as is every other student. If his program is to be accelerated, the student must be permitted to move from one school to that at the next higher level as soon as he has made full use of the offerings of the first school.

The study that is the subject of this report indicates that it is not necessary to keep all students in the lock-step of spending the same number of years in each of the several levels of our school system and that it is possible to provide for flexibility in the rates at which pupils progress. At the same time these results suggest that school officials contemplating the inauguration of a program for such flexible progression must be aware of the many problems that will be encountered and the many dangers that must be avoided. This chapter has attempted to point up these problems. In some cases it has suggested some possible answers while in others it has merely discussed the alternatives.

Certainly in a time when an increasing emphasis is being given to the importance of meeting the needs of every student, any program that seems to offer promise should be given careful consideration. Flexible progression must be considered as one of these promising programs and, as such, should be studied seriously by educational leaders at all levels as one important step for enhancing the effectiveness of the educational program.

This is the first in a series of bulletins reporting the results of selected activities of the Regional Commission on Educational Coordination and of the Coordinated Education Center. Each bulletin will describe some phase of the work of these agencies in demonstrating and evaluating practices in curriculum development, school organization, and instructional procedures designed to provide an improved educational experience for the able student as he moves through the entire school continuum from kindergarten through graduate school. Those interested in these publications may order additional copies of this first bulletin or may have their name placed on the order list for subsequent numbers by using the blank below.

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